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REMARKS/ARGUMENTS

Claims 1- 70 are pending in the application. In this Amendment and Response, the title of the application has been amended. Claims 1-20 have been canceled without prejudice. Claims 21-70 have been amended to remove brackets from the claim numbers. No other amendments have been made.

It is respectfully submitted that no new matter is added to the application by these amendments. Applicants respectfully request that the above-noted amendments be entered.

Amendments to the Specification

The title of the invention stands objected to as allegedly not descriptive. The objection is traversed.

37 CFR 1.72(a) states:

The title of the invention may not exceed 500 characters in length and must be as short and specific as possible. Characters that cannot be captured and recorded in the Office's automated information systems may not be reflected in the Office's records in such systems or in documents created by the Office. Unless the title is supplied in an application data sheet, the title of the invention should appear as a heading on the first page of the specification.

Section 606 of the MPEP states: "The title should be brief but technically accurate and descriptive and should contain fewer than 500 characters."

Nowhere in 37 CFR 1.72(a) is there a requirement that the title be "descriptive." The only reference to the title being "descriptive" is in Section 606 of the Manual of Patent Examining Procedure. The Forward to the MPEP recognizes that the manual is merely a reference work, and "does not have the force of law or the force of the rules in Title 37 of the Code of Federal Regulations."

The title of the invention reads "Distributed Microwave System" and fully complies with 37 CFR 1.72(a). The title is as short and specific as possible. Furthermore, the title accurately describes the invention, which comprises a system in which microwaves are distributed from a single power source to a plurality of heating devices. Nevertheless, the title has been amended to read "Distributed Microwave System Supplying Remote Heating Devices."

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Claim Objections

Claim 1 stands objected to as allegedly failing to provide a proper antecedent basis for the phrase "the microwave conduits." The objection is traversed.

Claim 1 has been canceled without prejudice. Thus, the objection is moot. Applicants request withdrawal of the objection.

Claim Rejections - 35 U.S.C. §102(b)

Claims 1, 13, and 19 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Japanese Patent No. JP 401030194A to Nakagawa. The rejection is traversed.

Claims 1, 13, and 19 have been canceled without prejudice. Thus, the rejection is moot. Applicants request withdrawal of the rejection.

Claim Rejections - 35 U.S.C. §103(a)

Claims 2-12, 14-18, and 20 stand rejected under 35 U.S.C. §103(a) as allegedly obvious over Nakagawa '194 in view of U.S. Patent No. 4,323,745 to Berggren. The rejection is traversed.

Claims 2-12, 14-18, and 20 have been canceled without prejudice. Thus, the rejection is moot. Applicants request withdrawal of the rejection.

Claims 21, 29-37, 50-52, and 70 stand rejected under 35 U.S.C. §103(a) as allegedly obvious over Nakagawa '194 in view of U.S. Patent No. 6,060,700 to Perlman et al. or U.S. Patent No. 6,759,636 to Stutman. The rejection is traversed.

Nakagawa '194 discloses a microwave oscillator attached to one end of a waveguide. The other end of the waveguide is branched into a plurality of waveguides, each of which connects to a separate heating chamber. An isolator branches off the waveguide between the oscillator and the branched end of the waveguide. Shutters that are selectively openable and closeable are installed at the branch in the branched waveguide. The shutters are selectively opened and closed to selectively supply microwaves from the microwave oscillator to one or the other heating chamber. The isolator blocks microwaves reflected up the waveguide from the heating chambers toward the oscillator.

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The stated purpose of the invention is "to block the microwaves reflected back from the microwave heating chambers" through the incorporation of the isolator into the waveguide.

Perlman '700 discloses a microwave oven adapted for use within a dashboard space provided by elimination of the glove compartment. Food items are heated by a microwave-generating magnetron, which appears from the Description to be incorporated into the oven in a conventional manner, i.e. within the oven housing adjacent the cooking chamber. The oven is sized to accommodate several beverage cups or heat-and-serve frozen dinners. *Col. 7, ln. 20-22.*

The oven also comprises a removable storage cassette that can be inserted into the cooking chamber to hold items typically stored in a glove compartment when the oven is not in use. When the oven is to be used, the storage cassette is closed by a door and removed from the cooking chamber with the stored items securely retained therein. *Col. 7, ln. 4-7.*

Stutman '636 discloses a portable, self-contained microwave oven that can be strapped to a vehicle seat with seatbelts and is powered by the vehicle's cigarette lighter socket.

Claim 21

Claim 21 calls for a vehicle in combination with a distributed microwave cooking system. The combination comprises a microwave cooking element located within the vehicle, a microwave generator located within the vehicle but remotely spaced from the microwave cooking element, and a microwave conduit connecting the microwave generator to the microwave cooking element. Microwaves generated by the microwave generator are directed to the microwave cooking element through the microwave conduit.

The standards for a finding of obviousness must be strictly adhered to. Simply citing one or more prior art references that illustrate different facets of the invention and then concluding that it would be obvious to combine the references to create the applicant's invention is wholly inadequate.

A claimed invention is unpatentable if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art....The ultimate determination of whether an invention would have been obvious under 35 U.S.C. §103(a) is a legal conclusion based on

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underlying findings of fact.¹

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field....Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher."

Most if not all inventions arise from a combination of old elements....Thus, every element of a claimed invention may often be found in the prior art....However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention....Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant....Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference.

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved....In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references....The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art....Whether the Patent Office Examiner relies on an express or an implicit showing, the Examiner must provide particular findings related thereto....Broad conclusory statements standing alone are not "evidence."

In Re Werner Kotzab, 217 F.3d 1365; 55 U.S.P.Q.2d (BNA) 1313 (Fed. Cir. 2000)(citations omitted)(emphasis added).

¹ The underlying factual inquiries include (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; and (3) the differences between the claimed invention and the prior art. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966).

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The Examiner has failed to identify any motivation, suggestion, or teaching of the desirability of combining Nakagawa '194 with either Perlman '700 or Stutman '636 to arrive at Applicants' invention. There has been no statement identified in the prior art, there has been no discussion of the knowledge of one of ordinary skill in the art or the nature of the problem to be solved, there has been no identification of what the combined teachings, the knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to one of ordinary skill in the art as required for a showing of motivation. The Examiner has failed to provide any particular findings related to any motivation, suggestion, or teaching of the desirability of combining Nakagawa '194 with either Perlman '700 or Stutman '636. Rather, the Examiner has simply relied upon "broad conclusory statements standing alone."

Indeed, Perlman '700 teaches away from the desirability of modifying the invention described therein with a microwave generator remotely spaced from a microwave cooking element, as required in claim 21. The microwave oven described in Perlman '700 is conceived as a fully functional microwave oven no different than a household microwave oven other than its smaller size. Furthermore, Perlman '700 discloses that the oven is capable of heating multiple food items. Thus, there is no motivation, suggestion, or teaching in Perlman '700 for multiple cooking chambers.

Similarly, Stutman '636 discloses a fully functional, portable microwave which can be powered through a vehicle cigarette lighter socket or a power supply remotely located from the vehicle. There is no motivation, suggestion, or teaching in Stutman '636 for multiple cooking chambers.

Finally, Nakagawa '194 discloses a microwave oscillator connected to a pair of cooking chambers through a branched waveguide. The inventive concept in Nakagawa '194 is the use of an isolator to prevent reflected microwaves from impacting the oscillator. There is no motivation, suggestion, or teaching in Nakagawa '194 for modifying the microwave device for vehicular use. Further, Nakagawa '194 does not disclose a microwave in a vehicle, or address the problems of placing a microwave in a vehicle.

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Therefore, none of the three references discloses any motivation, suggestion, or teaching that would warrant their combination.

Moreover, even if Nakagawa '194 were properly combinable with Perlman '700 or Stutman '636, the resulting combination would not equal Applicants' invention. Nakagawa '194 does not disclose an oscillator that is "remotely spaced" from a cooking element, as "remotely spaced" is used in claim 21. Applicants' description of the invention makes clear that "remotely spaced" means that the oscillator is spaced at some significant distance from the cooking element. Examples include locating the oscillator in a vehicle trunk or engine compartment. Nothing in Nakagawa '194 suggests that the oscillator is similarly spaced relative to the cooking chambers. There is nothing in the written description that even suggests that the oscillator is remotely spaced from the cooking chambers.

Furthermore, the figures in Nakagawa '194 show the microwave oven in a schematic representation, and disclose a configuration of oscillator, isolator, waveguides, and cooking chambers that can occupy a single housing. Indeed, Nakagawa '194 discloses an improvement, i.e. the isolator, to the microwave heating device described in Japanese Unexamined Utility Model Application Publication No. 50-58342, which describes a heating chamber divided into two chambers which are connected to a microwave oscillator via a branched waveguide. Thus, Nakagawa '194 should be read as describing no more than a conventional microwave oven with a single cooking chamber divided into multiple cooking chambers and supplied by a single oscillator through a multi-branched waveguide. Neither Nakagawa '194, Perlman '700, nor Stutman '636 discloses a microwave generator "remotely spaced" from a microwave cooking element.

Claims 29-37 and 50

Claims 29-37 and 50 depend, directly or indirectly, from claim 21, and are, for the same reasons, not obvious over Nakagawa '194 in view of Perlman '700 or Stutman '636.

Furthermore, claims 31 and 32 require that the microwave generator be located in a storage area, such as a trunk, which is not disclosed in any proper combination of the three cited references. Claims 33 and 34 require that the cooking element be located in a console, which can be located

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between spaced front seats, which is also not disclosed in any proper combination of the three cited references. Claim 37 requires the cooking element to comprise a housing having an open-top recess with a movable cover defining a cooking cavity sized to receive a cup, which is not disclosed in any proper combination of the three cited references. Finally, claim 50 requires that the cover define an open-bottom recess in the combination of the open-top recess and the cover open-bottom recess to define the cooking cavity, which is not disclosed in any proper combination of the three references. Thus, claims 31-34, 37, and 50 are independently patentable over Nakagawa '194 in view of Perlman '700 or Stutman '636. The rejection of claims 21, 29-37, and 50 is improper and should be withdrawn.

Claim 51

Claim 51 calls for a microwave cup warmer for a vehicle. The cup warmer comprises a microwave cooking element, a microwave generator located remotely from the microwave cooking element, and a microwave conduit. The microwave conduit connects the microwave generator to the microwave cooking element so that microwaves generated by the microwave generator are directed to the microwave cooking element.

The same arguments supporting the withdrawal of the rejection of claim 21 are equally applicable to the rejection of claim 51. The Examiner has failed to identify any motivation, suggestion, or teaching of the desirability of combining Nakagawa '194 with either Perlman '700 or Stutman '636 to arrive at the invention of claim 51. Furthermore, because none of the three cited references discloses a microwave generator that is "remotely spaced" from a microwave cooking element, the combination of Nakagawa '194 with either Perlman '700 or Stutman '636 fails to disclose the invention of claim 51. Claim 51 is not obvious over Nakagawa '194 in view of Perlman '700 or Stutman '636.

Claims 52 and 70

Because claims 52 and 70 depend, directly or indirectly, from claim 51, they are, for the same reasons, not obvious over Nakagawa '194 in view of Perlman '700 or Stutman '636. Moreover, no combination of the cited references discloses a housing having an open-top recess

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defining a cooking cavity sized to receive a cup, or a cooking cavity comprising a cup support, as required in claims 52 and 53, respectively. The rejection of claims 51, 52, and 70 is improper and should be withdrawn.

For the above reasons, claims 21, 29-37, 50-52, and 70 are in condition for immediate allowance. Applicants request the withdrawal of the rejections, and that claims 21, 29-37, 50-52, and 70 be allowed.

Claims 22-28, 38-43, and 53-63

Claims 22-28, 38-43, and 53-63 stand rejected under 35 U.S.C. §103(a) as allegedly obvious over Nakagawa '194 in view of Perlman '700 or Stutman '636, and further in view of Berggren '745. The rejection is traversed.

Claims 22-28 and 38-43 depended directly or indirectly from claim 21. Claims 53-63 depended directly or indirectly from claim 51. Claims 22-28, 38-43, and 53-63 all relate to a microwave system for heating food items. Berggren '745, however, describes a metal cavity for microwave heating of an injection molded plastic. The microwaves must be supplied to the metal cavity at a resonance frequency. However, to avoid points of zero electric energy density which results in non-uniform heating of the material, the microwaves are supplied at different resonance modes by separate waveguides, which can include coaxial conductors. The use of different resonance modes provides uniform heating of the material by eliminating the points of zero electric energy density.

The citation of Berggren '745 by the Examiner in support of a finding of obviousness is improper, and should be withdrawn. Berggren '745 is non-analogous prior art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *Wang Laboratories Inc. v. Toshiba Corp.*, 993 F.2d 858, 864, 26 USPQ2d 1767

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(*Fed. Cir.* 1993). While Patent Office classification is some evidence of analogy, the similarities and differences in structure and function of the inventions disclosed in the references carry far greater weight. *In re Clay*, 966 F.2d 656, 23 U.S.P.Q.2D (BNA) 1058 (*Fed. Cir.* 1992).

The first requirement has not been met. Berggren '745 is in a field which is entirely different from the field of Applicant's invention. Berggren '745 is directed to heating of injection molded plastics in a metal cavity which necessarily requires microwaves supplied at a resonance frequency. Rather than microwaves of the same frequency mode being supplied by a plurality of waveguides, microwaves of different frequency modes are supplied in order to ensure uniform heating of the plastic. This is entirely different from the field of art of Applicants' invention, which is directed toward the heating of food in a motor vehicle.

Berggren '745 is also not reasonably pertinent to the problem with which Applicant was concerned. The problem to be solved by the reference invention was the nonuniform heating of injection molded plastics. The problem to be solved by Applicants' invention was the provision of microwave heating devices in a motor vehicle.

Finally, the structure and function of the reference invention and Applicants' invention are significantly different. The reference invention comprises a heating chamber which is supplied through a plurality of waveguides with the microwaves at different frequency modes. The function of the device is to maintain uniform heating of a thermoplastic by use of microwaves of different frequency modes. In contrast, Applicants' invention is a system involving a plurality of heating chambers each of which is supplied by a waveguide branching off from a common waveguide conducting microwaves of the same frequency. The function of Applicants' system is the delivery of microwaves to discrete heating devices located throughout a motor vehicle. A person of ordinary skill seeking to solve the problem of delivering microwaves to discrete heating devices in a motor vehicle would not consider a device whose purpose is to provide microwaves of different frequency modes to a heating chamber for maintaining uniform heating of a thermoplastic. Thus, Berggren '745 is nonanalogous art.

Furthermore, as discussed above, there is no motivation, suggestion, or teaching in Nakagawa '194, Perlman '700, or Stutman '636 for combining these references in the manner asserted by the Examiner. The addition of Berggren '745 does not address the shortcomings in

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the underlying combination of Nakagawa '194, Perlman '700, and Stutman '636. There is also no motivation, suggestion, or teaching in Berggren '745 for combining Berggren '745 with Nakagawa '194, Perlman '700, or Stutman '636 in the manner asserted by the Examiner. Finally, even if the asserted combination were proper, the combination still would not reach the inventions of claims 22-28, 38-43, and 53-63 because none of the four cited references discloses a microwave generator that is "remotely spaced" from a microwave cooking element. Thus, the asserted combination is improper and should be withdrawn.

For the above reasons, claims 22-28, 38-43, and 53-63 are in condition for immediate allowance. Applicants request the withdrawal of the rejections, and that claims 22-28, 38-43, and 53-63 be allowed.

Claims 44-49 and 64-69

Claims 44-49 and 64-69 stand rejected under 35 U.S.C. §103(a) as allegedly obvious over Nakagawa '194 in view of Perlman '700 or Stutman '636, and further in view of U.S. Patent No. 5,315,084 to Jensen or U.S. Patent No. 4,814, 570 to Takizaki. The rejection is traversed.

Jensen '084 discloses a baby bottle container having a refrigerated compartment and a separate heating compartment. The heating compartment has a weight sensor to enable the heating time to be controlled based upon the weight of the bottle contents. Takizaki '570 discloses a cooking chamber having a humidity sensor and a weight sensor, the outputs of which are utilized to determine a total cooking time for a food item placed in the cooking chamber.

As discussed above, there is no motivation, suggestion, or teaching in Nakagawa '194, Perlman '700, or Stutman '636 for combining these references in the manner asserted by the Examiner. The addition of Jensen '084 and Takizaki '570 does not address the shortcomings in the underlying combination of Nakagawa '194, Perlman '700, and Stutman '636. Furthermore, neither Jensen '084 nor Takizaki '570 provides any motivation, suggestion, or teaching for combining any of the cited references in the manner asserted by the Examiner. Finally, even if the asserted combination were proper, the combination still would not equal the inventions of claims 44-49 and 64-69 because none of the cited references discloses a microwave generator that is "remotely spaced" from a microwave cooking element. Thus, the asserted combination is

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improper and should be withdrawn.

For the above reasons, claims 44-49 and 64-69 are in condition for immediate allowance. Applicants request the withdrawal of the rejections, and that claims 44-49 and 64-69 be allowed.

CONCLUSION

For the reasons discussed above, all claims remaining in the application are allowable. Early notification of allowability is respectfully requested.

If there are any remaining issues which the Examiner believes may be resolved in an interview, the Examiner is respectfully invited to contact the undersigned.

Respectfully submitted,

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